

## An Android Based Interactive Jogging Application: A Prototype

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### Abstract

In recent years, there were more people that stay at home. This was due to the advancements of food-delivery app, remote working, TV on demand and other technology innovations which allow people to enjoy the never-before convenience from their couch. However, according to report, the number of people being sluggish, depressed and sick was also quite high among this “indoor generation”. One solution is to have them go outside and exercise. Yet, not everyone is able to make the switch right away or live in a place that can make exercise accessible e.g. a good place for jogging. This paper aimed to give an alternative solution to this problem. There were two technologies that we utilized: First was the virtual reality (VR) technology. VR opened up limitless possibility of interaction which allow user to have his own temporary world to interact with. Accelerometer sensor was used to detect user’s feet movement which allows him to actually move forward in the VR world. Both were available on a typical android cellphone. By combining VR and android accelerometer sensor, we were able to create an application where user can jog at home without any other equipment but the cellphone itself and a cardboard headset. The end result has been initially tested and was able to detect movement of a person running in place and show the estimate distance as if they really running in place. This prototype serves as an initial step for further researches that can be enhanced or extended in many ways such as for health-related test or gamification of the app.

**Keywords:** *virtual reality, android, exercise, user interfaces, accelerometers*